

Amendments to the Specification:

Please insert the following paragraphs after the paragraph ending on page 11, line 23:

According to one aspect, a method of demodulating multiple channels, comprises providing a first analog to digital converter having an analog input and a digital output; providing a first plurality of digital demodulators, each demodulator having a programmable center frequency; coupling a band of frequencies to the analog input of the converter, the band including a second plurality of channels; creating digitized samples of the band at the output of the first converter; coupling the digitized samples to the plurality of demodulators; and demodulating a first plurality of channels from the band of frequencies.

Additionally, the method includes maintaining pre-computed sets of D.C. filter coefficients in non-volatile storage, each set corresponding to one of multiple prototype low-pass digital filters, each prototype filter having one of a predetermined set of bandwidths; selecting a first center frequency and first bandpass bandwidth for provisioning a first one of the first plurality of demodulators; retrieving the D.C. coefficients associated with the first bandwidth; subjecting the retrieved D.C. coefficients to a band-pass transformation corresponding to the first center frequency; and loading the transformed coefficients into coefficient latches in the first demodulator.

Additionally, the method includes operating the first demodulator at the first desired center frequency; subsequent to said operating, loading the coefficient latches in the first demodulator with transformed coefficients corresponding to a second desired

center frequency; and operating the first demodulator at the second desired center frequency.

Additionally, the method includes selecting a second center frequency and second bandpass bandwidth for provisioning a second one of the first plurality of demodulators, wherein said first and second bandpass bandwidths are unequal; retrieving the D.C. coefficients associated with the second bandwidth; subjecting the retrieved D.C. coefficients to a band-pass transformation corresponding to the second center frequency; and loading the transformed coefficients into coefficient latches in the second demodulator.

Additionally, the converter and the demodulators are within the upstream section of a CMTS channel bank organized into upstream and downstream channels.

Additionally, the ratio of the number of upstream channels demodulated by the CMTS channel bank to the number of upstream input connectors of the CMTS channel bank is M.

Additionally, M is 16.

Additionally, the converter, the demodulators, and the non-volatile storage are implemented on a single integrated circuit.

Additionally, the CMTS channel bank is organized using a plurality of modules, each module having a third plurality of downstream channels and fourth plurality of upstream channels.

Additionally, the third plurality is 4 and the fourth plurality is 16.

Additionally, the channel bank has 8 modules.

Additionally, the CMTS channel bank has 32 downstream channels and 128 upstream channels.

Additionally, the CMTS is DOCSIS compatible.

Additionally, the upstream channels are in the 750-1000 MHz portion of the spectrum.

Additionally, at least one frequency stacker is used to densely pack each sub-band of the of the 750-1000 MHz spectrum portion.

Additionally, each demodulator uses a FIR digital filter.

Additionally, each FIR filter is an Optimum Equiripple Linear-Phase filter.

Additionally, the filter coefficients are designed using a Chebyshev approximation.

Additionally, the Parks-McClellan Alternation theorem is used in the approximation.

Additionally, the coefficients are computer using the Remez exchange algorithm.

Additionally, the coefficients are computed using the Rabiner exchange algorithm.

Additionally, the number of coefficients for each filter is at least 16.

Additionally, the number of coefficients for each filter is at most 24.